IMPORTANT SAFETY INFORMATION

- All safety and operating Instructions should be read before the product is operated.

- All warnings on the product and in the operating instructions should be adhered to.

- Do not use this apparatus near water.

- Clean only with a dry cloth. Do not use liquid cleaners or aerosol cleaning products.

- Do not block any of the ventilation openings.

- Do not install near any heat sources.

- Do not defeat the safety purpose of the polarized or grounding-type plug.

- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

- Only use attachments/accessories specified by the manufacturer.

- Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.

- Unplug this apparatus during lightning storms or when unused for long periods of time.

- Refer all servicing to qualified service personnel.

- The SRT 5400 should be installed 10cm away from a wall to allow for the Power Switch and Power Lead on the back panel

CAUTION
RISK OF ELECTRIC SHOCK,
DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

To reduce the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.

This symbol indicates **dangerous voltage** inside the product that presents a risk of electric shock or personal injury.

This symbol indicates important instructions accompanying the product.

TABLE OF CONTENTS

INTRODUCTION

Thank you for purchasing this Strong Digital Terrestrial Television Receiver.

This product has been manufactured in accordance with strict Quality Control Procedures and is fully compliant with Australian DVB-T digital television standards.

Your new Receiver will enable you to experience superior picture and sound quality, widescreen images, extra channels plus a variety of new features.

UNIT CONTENTS

- Remote control unit
- Two batteries (size AA)
- Video and stereo audio RCA cable
- YPbPr(RGB color) cable

FEATURES

- 1080i / 720p / 576p / 576i Video Formats
- Format Change by Remote Control
- Simultaneous HD & SD
- Component - YPbPr
- DVI-I
- RGBHV / RGB Component - VGA
- Composite - CVBS
- S-Video – Y/C
- Dolby Digital Optical & Coaxial
- 16:9 Fullscreen, 4:3 Letterbox & Fullscreen
- Picture in Picture
- Zoom Mode by Remote Control Hot Key
- Auto & Manual Channel Search
- Favourite Channel List
- Electronic Program Guide
- Preprogrammed STB/TV Remote Control
- Captions
- Teletext
- Super Sensitive Tuner
- RS–232C Port for Software Upgrade
- DVB/T Compliant, COFDM Demodulation
- DVB, MPEG – 2 Compliant,

FRONT PANEL VIEW
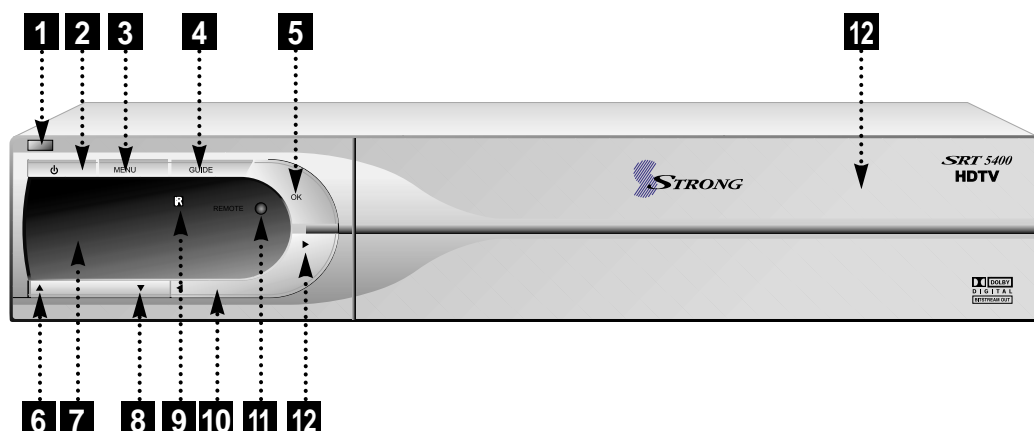
1 **Standby LED :** Standby mode LED

2 ☉ **:** Turn on/off power.

3 **MENU :** To access the main menu or to go back upper level.

4 **GUIDE :** To view program information

5 **OK :** Used to select item and complete numeric value entry or modify values in the menu entry.

6 **CH UP :** Move cursor up from set up menu or channel up.

7 **Digit LED display :** This will display the current channel or certain programming functions when using the menus.

8 **CH DOWN :** Move cursor down from set up menu or channel down.

9 **IR :** Infrared remote control sensor.

10 **VOL UP :** Volume 'up' adjustment

11 **LAMP :** Light on power on mode.

12 **VOL DOWN :** Volume 'down' adjustment

Front Panel buttons and menu allow for control of the SRT 5400 without the remote control unit except the function of FAVORITES, INFO and some advanced features.

REAR PANEL VIEW
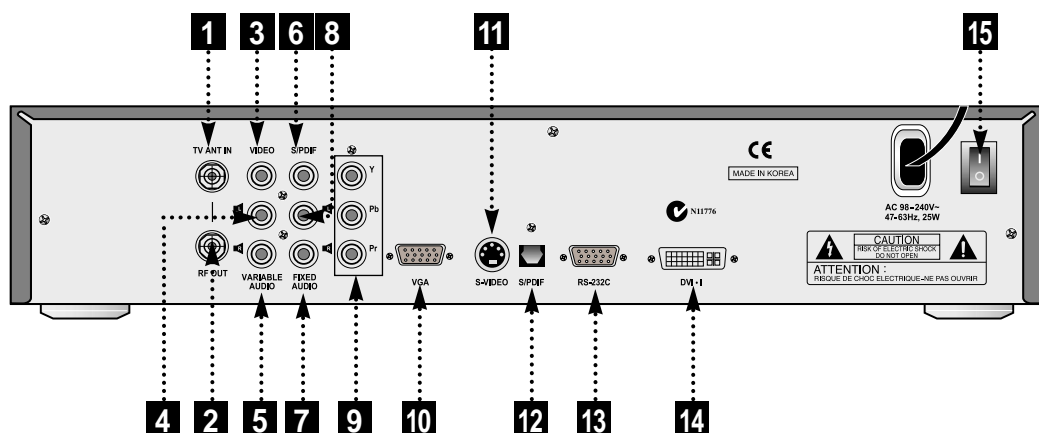
1 **TV ANT IN :** RF input for connecting the STB to a terrestrial antenna using a coaxial cable.

2 **RF Out :** To Connect to another set top box or recording device e. g. VCR / TV.

3 **VIDEO (YELLOW) :** Composite video jack for connecting the STB to your television using standard RCA cable.

4 **Variable Audio - L (WHITE) :** Left RCA audio jack for connecting the STB to your television audio input using standard RCA cable.

5 **Variable Audio - R (RED) :** Right RCA audio jack for connecting the STB to your television audio input using standard RCA cable.

6 **S/PDIF COAXIAL :** Digital audio output for connecting the STB to your AV receiver or Dolby Digital decoder using digital coaxial cable. Set this output to AC-3 Dolby Digital or Stereo PCM in the STB setup menu or by the SAP button on the remote control.

7 **FIXED Audio - R (RED) :** Right RCA audio jack for connecting the STB to your VCR audio input using standard RCA cable.

8 **FIXED Audio - L (WHITE) :** Left RCA audio jack for connecting the STB to your VCR audio input using standard RCA cable.

9 **YPbPr OUT(Component) :** Component RCA video jacks for connecting the STB to your television using coaxial cables.

10 **VGA OUT :** RGB/VGA component output for connecting the STB to a television using a VGA cable.

11 **S-VIDEO :** S-video jacks for connecting the STB to an S-Video compatible VCR or television.

12 **S/PDIF OPTICAL :** Digital audio output for connecting the STB to your AV receiver or Dolby Digital decoder using optical cable. Set this output to AC-3 Dolby Digital or Stereo PCM in the STB setup menu or by the SAP button on the remote control

13 **RS-232C :** RS232C serial connection for future upgrades of the STB.

14 **DVI-I OUT :** Digital video signal and RGB component output for connecting the STB to a television using a DVI cable.
NOTE : The YPbPr, VGA and DVI-I outputs carry the same R/G/B signals using different physical connectors. Choose only one – do not use both at the same time.

15 **AC POWER INLET :** Inlet to connect the STB to a standard power wall outlet.

REMOTE CONTROL BUTTONS
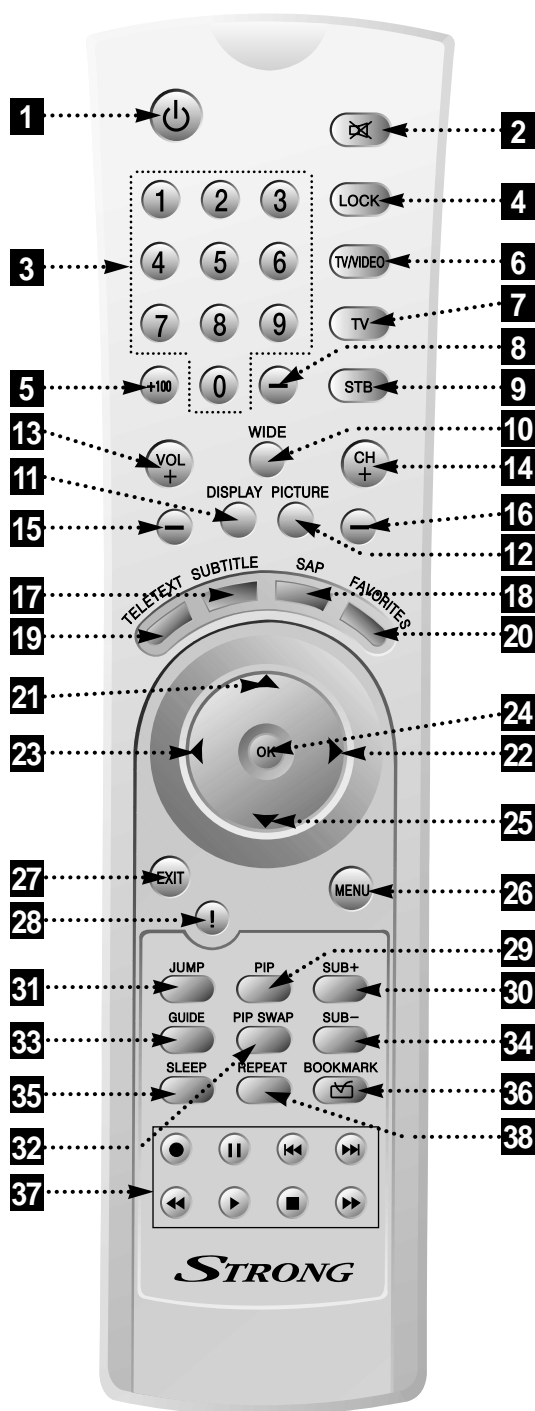
1 POWER : Switch the STB between operation and standby mode.

2 MUTE : Turns the audio on and off. Line L, R output is not affected.

3 0 ~ 9 : Used to select channel directly or set setup values like password.

4 LOCK : Used to turn on/off – Channel Lock.

5 +100 : Not Used

6 TV/VIDEO : Not Used

7 TV : Switch remote control unit to television control mode.

8 dash button (-) : Not Used

9 STB : Switch remote control unit to STB control mode.

10 WIDE : Aspect Ratio selection of 16:9 and 4:3

11 DISPLAY : Used to select 1080i/720p/576p/576i video mode directly.

12 PICTURE : Zoom mode selection including preview mode on picture view (not for Composite or S-Video)

13 / 15 VOL + / VOL- : Used to volume up and down.

14 / 16 CH +/CH- : Service up to down through the available services.

17 **SUBTITLE :** To turn Closed Captions on/off

18 **SAP :** Select Audio Program Dolby Digital and PCM

19 **TELETEXT :** Teletext

20 **FAVORITES :** Used to tune to next available Favorite program.

21 / **25** **UP / DOWN :** Move cursor up / down from set up menu.

22 / **23** **LEFT/RIGHT :** To navigate in program guide. Right button can be used as ENTER button.

24 **OK :** To select item and complete numeric value entry or modify values in the menu entry.

26 **MENU :** Used to invoke set up menu or to go back upper level.

27 **EXIT :** To exit menu

28 **! :** To invoke Information Panel.

29 **PIP :** Turn on / off PIP function. (HD Outputs Only – not available when using S-Video and CVBS Composite)

30 / **34** **SUB +/- :** Channel change for PIP

31 **JUMP :** Not used

32 **PIP SWAP :** Switch main program and sub program.

33 **GUIDE :** To view program guide.

35 **SLEEP :** Display the sleep time. At the sleep time, enter standby mode automatically.

36 **BOOKMARK :** Setting the Favorite channel

37 **OPTION KEYS :** Not used

38 **REPEAT :** Not used

INSTALLATION

CONNECTING THE SRT 5400 TO YOUR TELEVISION

For connection of the SRT 5400 there are number of alternatives depending what is your preference and the connection types on your TV.

Please connect by either of the following methods:

A. B. C.   For **High Definition** VIDEO Signal

D. E.   For **Standard Definition** VIDEO Signal

F.   Mandatory for Antenna connection

(Audio connections are explained separately following these video connection explanation alternatives)

Refer to **Page 5 & 6** for the **Connector Reference Numbers** listed below.

A. Connector 9 : YPbPr (Component – For HD)
Using supplied Green / Blue / Red RCA Lead

Connector 9	YPbPr (Component)	Connect to the Green/Blue/Red RCA (Component) Connectors of your TV

B. Connector 10 : VGA (For PC RGB signal- For HD)

You will need to purchase this lead separately.

Connector 10	VGA	Connect to the VGA connector of your TV

C. Connector 14: DVI-I (For HD)

You will need to purchase this lead separately

Connector 14	DVI	Connect to the DVI connector of your TV

D. Connector 11: S-Video (Y/C) (For SD)

You will need to purchase this lead separately

Connector 11	S Video (Y/C)	Connect to the S-Video connector of your TV

E. CVBS (Composite – For SD) via the supplied Yellow / White / Red RCA Lead

For this Standard Definition Composite Video connection, Audio is also included, this will be PCM Stereo.

Connector 3 (Yellow)	VIDEO	RCA cinch	Connect to Video (Yellow) RCA of your TV
Connector 4 (White)	AUDIO Left	RCA cinch	Connect to audio (White) RCA of your TV
Connector 5 (Red)	AUDIO Right	RCA cinch	Connect to audio (Red) RCA of your TV

If you require Dolby Digital Audio Output (through you're Dolby Digital Decoder Amplifier) please refer to : **DOLBY DIGITAL AUDIO (page 11)**

F. Connecting the Antenna

Connect TV Antenna to Connector 1 (Aerial)

Connector 1	Aerial	IEC169-2 female	Input from Antenna to Receiver

Audio Connections

PCM Stereo – Variable : Using supplied Yellow / White / Red RCA Lead

(Other than when connecting for CVBS Composite, the Yellow RCA will not be required to be connected)

Connector 4 (White)	AUDIO Left	RCA cinch	Connect to audio RCA input (White) of your TV
Connector 5 (Red)	AUDIO Right	RCA cinch	Connect to audio RCA input (Red) of your TV

PCM Stereo – Fixed Using supplied Yellow / White / Red RCA Lead

Refer Page 22: 2nd Audio Volume Mode

(Other than when connecting for CVBS Composite, the Yellow RCA will not be required to be connected)

Connector 7 (Red)	AUDIO Right	RCA cinch	Connect to audio RCA input (White) of your TV
Connector 8 (White)	AUDIO Left	RCA cinch	Connect to audio RCA input (Red) of your TV

Dolby Digital Audio

If you have a Dolby Digital Decoder Amplifier, you can connect to the amplifier by **S/PDIF** i.e **either** by **Connector 6: Coaxial Cable** or **Connector 12: Optical Cable.** (Both leads need to be purchased separately). This connection will provide for Dolby Digital Output when broadcast to your decoder amplifier

Connector 6	S/PDIF Coaxial	Connect to the Coaxial input of your Amplifier
Connector 12	S/DIF Optical	Connect to the Optical input of your Amplifier

To 'Enable' Dolby Digital to be heard when transmitted within the broadcast stream, you will need to select Dolby Digital In the **TV Set Up** Menu or by the **SAP** button on the remote control

Dolby Digital by Menu System

- Press the Menu button (Page 7 No.26) on the remote control and a Main Menu Banner will be viewed listing 7 topics.
- Using Remote Control Up/Down Scoll Buttons, Scroll to Set Up
- Push Remote Control OK Button (main centre button of Remote Control: Button 24)

Set Up banner will be viewed listing 9 topics

- Scroll to **Digital Audio** and push **OK** button on the remote control
- Digital Audio banner will be viewed with right hand banner listing **Digital Audio** and **PCM**
- Scroll to **Digital Audio** and setting will be confirmed by a RED dot.
- Push **OK** to confirm the setting
- Push **EXIT** to return to normal TV broadcasts

Dolby Digital by SAP button of the Remote Control

- Press the SAP button on the remote Control
- Digital Audio banner will be viewed with right hand banner listing **Digital Audio** and **PCM**
- Scroll to Digital Audio and setting will be confirmed by a RED dot.
- Push **OK to confirm the setting**

Push EXIT to return to normal TV broadcasts

Connect AC Power Cord

Connect the C power cable of the SRT 5400 to a standard AC outlet.

POWER ON & Full SCAN

Listed below is the procedure to automatically scan to lock in all available channels.

Prior to this procedure it important to note:
In the Menu system of the SRT 5400, the default VIDEO setting is COMPONENT.

However, if you have connected by either S-Video (Y/C) or CVBS Composite, or Component, VIDEO source will still be recognized and you will not need to alter the video setting in the Menu System after you have completed the Automatic Scan procedure.

If you require to connect by either **VGA (RGB Monitor/RGB Component)** or **DVI,** you will need to **firstly connect** by any of the other 3 Video methods listed above otherwise on first set up of Automatic Scan, VIDEO will not be recognized.
Once Automatic Scan has been completed, Video pictures will be available thus enabling you to select and view the Menus's to change to your Video setting of either VGA or DVI.

POWER ON the SRT 5400

Turn the SRT 5400 ON. There is an **ON/OFF Switch** on the rear panel of the Receiver. (Located beside the main power cord of the receiver) The 7-segment LEDs will light

On the SRT 5400 Remote Control Press ⏻ **(Page 7 No. 1)** to turn on the STB. The Blue Power LED will turn off.

Setting the Television Input Source

Press the Power On of Television Remote Control unit to turn on the television. Allow the television to warm up. Press **TV/Video button** of television remote control unit to select external video input connected to the SRT 5400.

When Power is ON, you will view a **Strong Image Banner** on the TV Screen for a few seconds and banner view will then change to **Press Menu** Banner. Your Receiver is **now ready to be scanned** to lock in all of the Broadcast Frequencies in your area.

You will see Strong Image Banner on Component, RGB mode.

Automatic Scan Process

- Press the **Menu button (Page 7 No.26)** on the remote control and a **Main Menu Banner** will be viewed listing 7 topics.

- Using Remote Control Up/Down Scoll Buttons, Scroll to **Set Up**
- Push Remote Control **OK** Button (main centre button of Remote Control:Button 24)

Set Up banner will be viewed listing 9 topics

- Scroll to **Full Scan** and push **OK** button Twice on the remote control
- Channel Scanning will now commence and will take approximately one minute and will lock in all available frequencies in your area.
- Once Full Channel Scan is completed, **Set up** Banner will be viewed with TV broadcast in top right corner
- This Picture in Menu TV broadcast will remain in view for **10 seconds** and unit will then revert to Full TV Broadcast.

SELECTING VGA AND DVI VIDEO MODE

- Press the **Menu button (Page7 No.26)** on the remote control and a **Main Menu Banner** will appear listing 7 topics.
- Using Remote Control Up/Down Scroll Buttons, Scroll to **Set Up**
- Push Remote Control **OK** Button

Set Up banner will be viewed listing 9 topics

Scroll to **Display Type** and push **OK**

Display Type banner will be viewed listing 4 Topics.

The current Video Setting will be highlighted by a Red Dot

- Scroll to your selected setting of either DVI or RGB monitor or RGB component
- Push OK button on the remote control and setting will be confirmed by Red Dot:
- **Important :** On your TV Remote Control, select the corresponding television input mode via the TV/Video button.

Selecting and Changing Channels

There are 2 methods to select and change channels
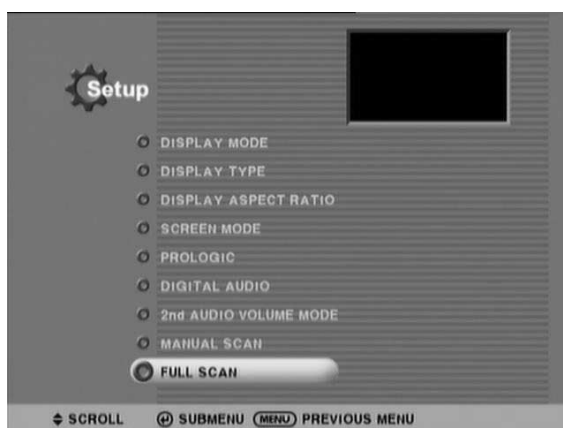
A. Press the required Numeric Button on the Remote Control (0-9).

    Please Note : SRT5400 has default LCN – Logical Channel System

    1 = Ten Network & Affiliates

    2 = ABC

    3 = SBS

    7 = Seven Network & Affiliates

    9 = Nine Network & Affiliates

B. Select and change channels by using the Up/Down channel Buttons CH + (14) CH – (16)

Volume Control

To adjust Volume UP and DOWN, press the following buttons on the remote control:

Volume Increase : VOL Button **+ (13)**

Volume Decrease : VOL Button **– (15)**

Important : The Volume Level is dependant on the volume level that you <u>firstly set</u> within your TV I.e. via your TV remote control volume setting.

Volume Mute

Press Mute button (2) on the remote control

Press Mute button again to reactivate sound.

Program list menu

Press MENU(page7 ,No26)on the remote control unit and TV PROGRAM select.
The Program list menu appears.

Using the $\boxed{\text{UP}}$/$\boxed{\text{DOWN}}$ **(Page 7 No.21/25)** arrows on the remote control unit, highlight the channel you want to add to your favorite lst, and then press **BOOKMARK button (Page 7 No.36)** on the remote control unit.

The channel now added in your favorites list.

By pressing **BOOKMARK button** on the program with favorite flag at **Program list** menu, you can remove program from favorite list.

Viewing Favorites

To view a program from the favorite program list do the following:

Press $\boxed{\text{FAVORITES}}$ **(Page 7 No. 20)** on the remote control unit. The next favorite program is selected.

By pressing $\boxed{\text{FAVORITES}}$ button repeatedly, user can navigate favorite programs.

DTV SPECIFIC MENU OPERATIONS

Information Panel

Pressing ⚠ **button(Page 7 No.28),** this Information Panel becomes active. This bar displays major-minor channel number; channel name, title, start time, end time, content advisory rating, closed captioning indicator, and extended text descriptions for current / next event. To have quick response, the bar displays initial information but update in a second when program description information is detected. RF signal status is displayed together. Pressing ⚠ **button** again with Information Panel deactivates Information Panel.
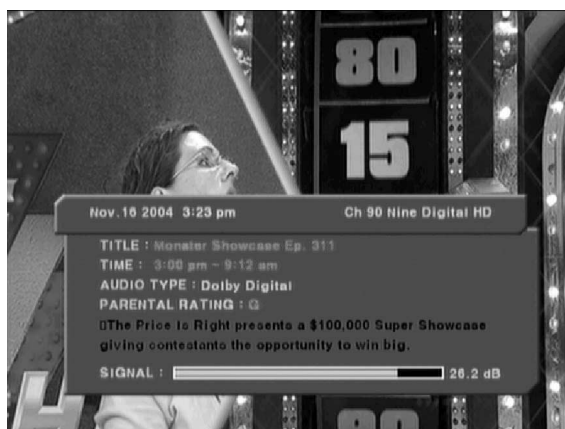
Figure 1. Example of Information Panel

Program Guide
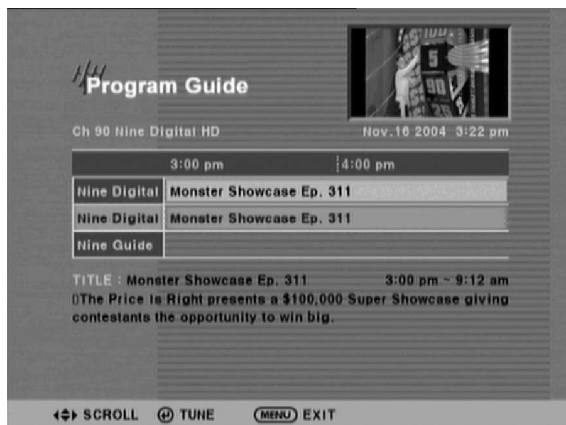
Figure 2. Example of Program Guide Page

This page is visible with GUIDE button(**Page 7 No.33**) press. This page shows all the information found from Information Panel as well as additional program schedules not just current / next event related contents. User can scroll through multiple programs with UP / DOWN **(Page 7 No.21/25)** buttons and select a program to tune it. To navigate through different time zone, LEFT / RIGHT **(Page 7 No.22/23)** buttons are used.

Main Menu
Press MENU button(**Page 7 No.26**) to invoke main menu that has 5 section entries: **Program List, Program Guide, Service, Setup,** and **Directory.** By using the UP / DOWN buttons (**Page 7 No.24/25**) to select and use ENTER **(Page 7 No.24)** button the to see submenu page. Once a sub-menu has been chosen the particular page is displayed and the main menu disappears. shows an main menu of STB. Selecting Directory entity switches the STB into playback mode.
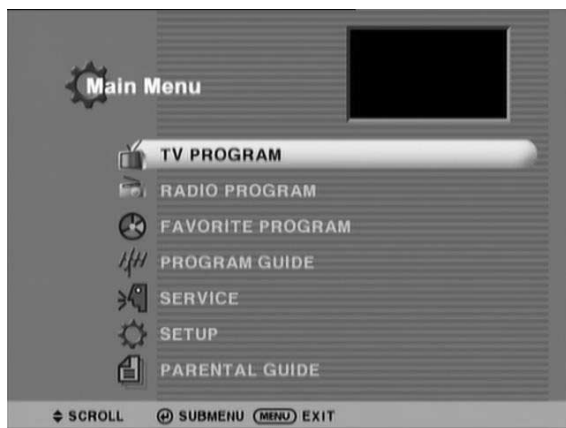
Figure 3. Main Menu

PROGRAM GUIDE
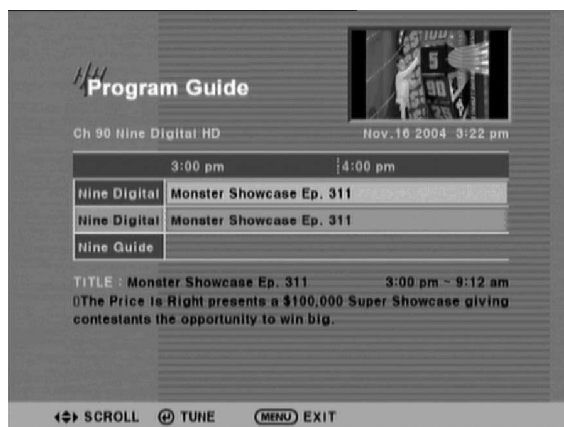
Figure 4. Program Guide Page

Program list is shown **Figure 4.** It shows installed programs and allows manual entry deletion. This page allows the user to decide which program in the known programs to display. By using the [UP]/[DOWN] **buttons (Page 7 No.21/25)** to navigate to see the particular program's information and then using the [ENTER] **(Page 7 No.24)** button to select, the user can choose the desired program.

Favorite Program
Each program entry can be set as favorite by pressing [BOOKMARK] **(Page 7 No.36)** button. If user presses BOOKMARK button on favorite program, favorite program flag is reset to normal program.

Channel Lock
Each program entry may be blocked by pressing **LOCK(Page 7 No.4)** button from program list page. When user tunes to locked program later, password is asked to enter to proceed. If user press **LOCK button** on channel locked program, password is asked again and channel lock flag is cleared.(Default password code is 0000)

Service Menu

Figure 5. Service Menu Page

■ Audio Track [English / Spanish / French / Portuguese / German / Italian / Korean]: Select prefered audio language when multiple audio language is available.

■ Teletext Sub-menu: (Available for DVB model)

■ Turn off OSD : Remove menu page when no button-input is given before the specified interval time-out.

■ Subtitle turn on/off.

■ Signal status : Checking signal status of current channel.

■ Set time : Local time offset is calculated from current time setup and broadcasted clock information.

■ Sleep time set

■ Modify password : Use to change password.(Default password code is 0000)

■ Fatory Default : All setting reset.(Default password code is 0000)

Setup Menu
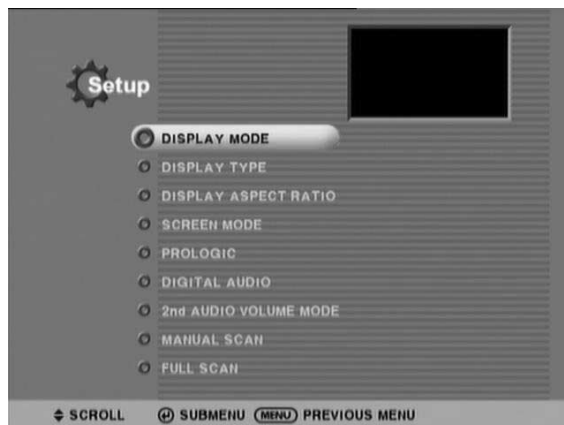
Figure 6. Setup Page

The Setup page consists of 9 groups of configurations; Display mode, Display type, Display aspect ratio, screen mode, Prologic, Digital audio, 2nd Audio volume mode, Manual scan and Full scan. (Figure 6) shows set-up menu page entities.

■ **Display mode :** The video menu page allows user to choose the display resolution [576i, 576p, 720p, 1080i]

■ **Display type :** RGB monitor/RGB component / component / DVI. This selection can be fixed to have designated mode for STB, RGB component mode has embedded sync on green but RGB monitor mode does not embed sync on green [RGB Monitor, RGB Component, Component, DVI]

■ **Display aspect ratio :** Display Aspect Ratio: 4:3 or 16:9 for Primary and Secondary. This selection can be fixed to have designated mode for STB,optional.[4:3, 16:9]

■ **Screen mode :** Normal, Full screen, Zoom in

■ **Prologic :** prologic on, off

■ **Digital Audio :** PCM, Digital audio

■ **2nd Audio volume mode :** Fixed, Variable mode

■ **Manual scan :** Scan desired channel only

■ **Full scan :** All channel scan

Figure 7. Scanning Progress Information Panel

New Program can search from **Manual Scan** on **Setup** menu. While search progresses, scanning progress Information Panel(Figure 7) displays the status.

By user selection, First detect RF locking for each channel and channel descript information search starts with time out value (1 second). If program is found but no channel descript information is found within time out, set major channel to physical channel and set minor channel default value 1. Default channel name is set to 'CHAN-<channel number>. The found data are stored into program information file and used for later tuning. The channel information file records following information to tune and describe the program for each found program.

Initially the program information file is cleared to zero. The contents of program information is sorted with respect to the Logical Channel number value. If logical channel number already exists, extra channel will be allocated a different Logical channel number

Parental Guide Set-up

To enable control of viewing acceptable programs: I.e You may want to "Lock Out" from view particular Broadcast Programs.

The set-up page will ask to enter password before proceed to configure. Then it will display rating tables parsed from Regional rating information and show previous setting status. It will allow user to navigate items and set/clear blocking. Remember blocking set/clear status for each grade of parsed regions. The parental guide uses **OK (Page 7 No.24)** button to set/clear block status and numeric button for password.

■ Password : Four digits number is used to limit access grade especially for content advisory. (Default password code is 0000)

■ Parental guide configuration

Figure 8. Password Confirm Dialog
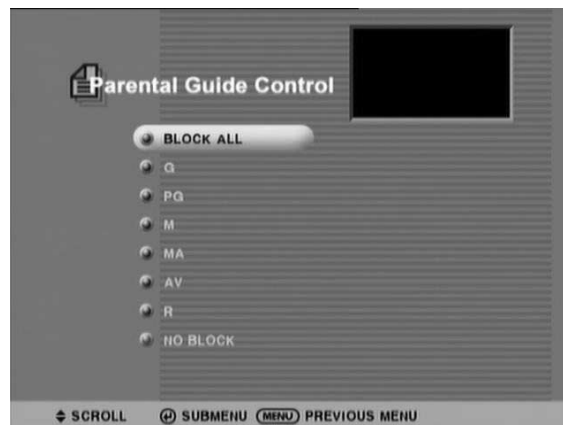
Figure 9. Parental Guide Setup Menu Page

CONFIGURATION UNIVERSAL REMOTE CONTROL UNIT

The SRT 5400 Remote Control is a 'Universal' Remote Control Unit. To utilise this remote control to also operate some of the functions of your TV, configure in the following way.

❶ Turn on the Television

❷ On the SRT 5400 Remote Control, Press the **TV** button **(7)** and the **OK** button **(24)** 'together' for about 3 seconds. TV Button LED will light as an indication of successful RCU set-up mode.

❸ Refer to the following TV Brand Code List to view your television brand. On the remote control enter the three digit code of your television via the numeric buttons 0 to 9

When this is actioned successfully, your television will turn OFF.

If television does not turn OFF, you will need to repeat steps 2 & 3.

❹ When your Television turns OFF, press the **TV** button **(7)**. If the configuration has been successful, the TV button LED will flash three times and TV Code will be saved.

❺ Press other Function Buttons of the remote control. If these other Function Buttons are not working (with exception of the Power Button), repeat the procedure from Step 2.

Television code of UNIVERSAL REMOTE CONTROL UNIT

A.R.Systems	001	Anam	001,036,041
Abex	134	Anam National	001
Accent	001	Anglo	036,040
Acec	161	Anitech	001,007,036,040,041
Admiral	040,072,136,141	Ansonic	001,035,036,066,073,100,101,
Adyson	041,134		102,135,145,161
Agashi	040	Arc en Ciel	110,113,117,146,189,195
Agef	141	Aristona	001,005,161
Aiko	001,026,030,036,040,067,071,	Arthur Martin	074
	105	ASA	085,104,141,147,167
Aim	001,059	Asberg	001,007
Akai	001,020,026,030,036,037,038,	Asora	036
	040,063,067,071,078,080,105,	Asuka	040,062,063
	143	Atlantic	001,076,102
Akiba	001,062,063,070	Atori	036
Akito	001,157	Auchan	074
Akura	001,036,039,040,062,063,064,	Audiosonic	001,040,063,075,100,117,145
	068	Audioton	040,100
Alaron	056	Ausind	007
Alba	001,030,031,034,036,038,052,	Autovox	007,076,141
	055,063,068,072,079,093,100	AWA	001,035,036,039,078,089,092,
Alcyon	007.031		093
Allorgan	054.076	Baird	020,065,067,111,114,115,117
Allstar	001	Bang &Olufsen	141
Amplivision	074,100	Barco	084
Amstrad	001,022,030,036,039,040,042,	Basic Line	001,035,036,062,063
	063,064,071,088	Baur	001,046,103,105,138,150,153,

Baur	190,193	Crown	079,096,100,184,185
Beko	001,078,100	CS Electronics	063
Beon	001,072,134	Curtis Mathes	024,095,136
Best	075,100,185	Megatron	024
Bestar	001,035,100	Cybertron	063
Blacktron	062	Daenyk	056
Blaupunkt	103,105,127,143,190,193	Daewoo	001,004,006,035,036,063
Blue Sky	001,034,062,063,068,070,200	Dainichi	063
Blue star	062	Dansai	001,026,036,040,134
Boots	157	Dansette	039
BPL	001,062,184	Dantax	100
Brackway	062	Datsura	020,184
Brandt	087,098,110,113,117,146,160, 189,195	Dawa	001
		Daytron	001,035,036
Braun	183	de Graaf	018,020,028
Brinkmann	001,045,072	Decca	001,051,067,139,157
Brionvega	001,141	Deitron	001
Brother	040	Denko	040
Bruns	141	Denon	024
BSR	054	DER	065
BTC	063	Derwent	077
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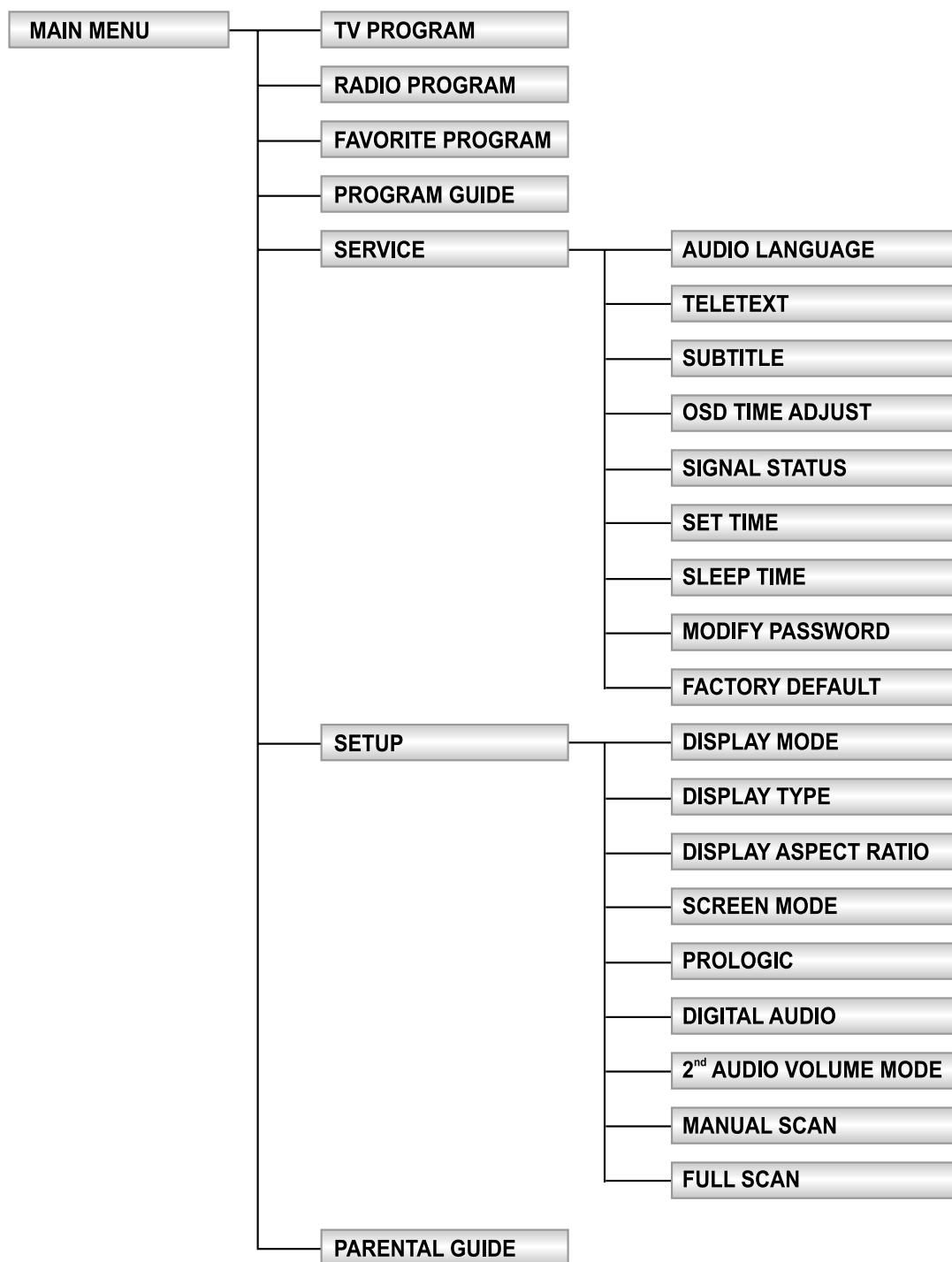
TECHNICAL SPECIFICATIONS

Trouble Shooting

Problem	Possible resolution
No picture no OSD	Make sure power cord is plugged in.
	Make sure power is on.
	Make sure all cables are connected properly.
No picture or sound but OSD is available	Make sure all cables are connected properly.
	Make sure antenna cable is functioning properly.
Bad reception	Make sure antenna cable is functioning properly.
	The channel you are watching may have a weak signal.
No sound but video only	Make sure all cables are connected properly.
	Volume is set too low.

Technical Specifications

Terrestrial Input Signal	
Input Frequency	VHF/UHF 5~69
	170MHz ~ 860MHz
Input Impedance	75 Ω 162-2 male/female – PAL IEC
Band Width	7 MHz
Modulation Type	DVB-T
Signal Sensitivity	$\geq$ 43.5 dBµV(UHF)
	$\geq$ 35.4 dBµV(VHF HIGH)
	$\geq$ 35.4 dBµV(VHF LOW)
Video	
Algorithm	MPEG-2 compatible Main Profile@High Level
Display Video Type	1080i / 720p / 576p and 576i for 25Hz selectable
Display Frame Rate	25/50 Hz
Video Output 1	Composite (RCA) – SMPTE-170M
Video Output 2	S-Video (Mini DIN) – SMPTE-170M

Video Output 3	YPbPr Component
Video Output 4	DB15p (RGBHV)
	RGB, luminance < 30MHz, chrominance < 15 MHz
Video Output 5	Digital and analog link DVI-I output
Audio	
Algorithm	AC-3, MPEG-1/2 layers
Frequency Response	20Hz~ 20 kHz, < ± 2dB
Sampling Frequency	48 kHz
Analog Audio Output for TV	RCA male 2ch (L, R or Lt, Rt)
Line Analog Audio Output	RCA male 2ch (L, R or Lt, Rt) – Fixed volume
Digital Audio Output	IEC61937 (SPDIF) optical connector Jitter < 0.15UI
Controller Features	
CPU	300 MHz 32 bit MIPS
Firmware Download	Upgrade over RS232C
Operating System	Embedded Linux
Memory	64Mbytes DRAM, 16 Mbytes NAND Flash
Data Interface	9 pin D-shell RS-232C connection (115Kbps)
Power	
Power	98~240V AC 47/63Hz 25W max
Standby Power	5W
Environmental Condition	0 ~ 45 °C degree. 0~95% humidity
Operating Temperature	25°C
Weight Dimension	3.0Kg W/D/H : 360 / 290 / 65mm

REAR PANEL CONNECTOR SPECIFICATIONS

Audio Output Connector

Label	Meaning	Connector	Comment
L – TV	Left	White RCA jack	Audio Lo or Lt
R – TV	Right	Red RCA jack	Audio Ro or Rt
L – LINE	Left – fixed level	White RCA jack	Audio Lo or Lt
R – LINE	Right – fixed level	Red RCA jack	Audio Ro or Rt
SPDIF	Digital audio output	TOS-LINK	AC-3 stream / PCM
SPDIF	Digital audio output	Black RCA Jack	AC-3 stream / PCM

Video Output 1 – RGB, YPbPr

Label	Meaning	Connector	Comment
R/Pr	Red/R-Y	15-p DB	0.7Vpp at 75 ohm
G/Y	Green/Luminance	15-p DB	0.7Vpp at 75 ohm
B/Pb	Blue/B-Y	15-p DB	0.7Vpp at 75 ohm
HD	Horizontal sync	15-p DB	4 Vpp at 75 ohm
VD	Vertical sync	15-p DB	4 Vpp at 75 ohm

Pin number	Definition	Pin number	Definition	Pin number	Definition
1	R/Pr	6	GND	11	11 MS0
2	G/Y	7	GND	12	12 MS1
3	B/Pb	8	VS	13	13 HS
4	MS2	9	NC	14	14 VS
5	GND	10	GND	15	15 MS3

Video Output 2 – Component

Label	Meaning	Connector	Comment
Y		Green RCA jack	1Vpp at 75 ohm
Pb		Blue RCA jack	0.7Vpp at 75 ohm
Pr		Red RCA jack	0.7Vpp at 75 ohm

CAUTION : These signals are connected together with VGA

Video Output 3 – Composite

Label	Meaning	Connector	Comment
Composite		Yellow RCA jack	0.7Vpp at 75 ohm

Video Output 4 – S-Video

Label	Meaning	Connector	Comment
S-video		MINI DIN	0.7Vpp at 75 ohm

Video Output 5 – Digital Only Single link DVI

8	NC	16	HOTPLUG	24	DVCLK+
7	DVDDC_DATA	15	GND	23	DVCLK
6	DVDDC_CLK	14	+5V	22	GND
5	NC	13	NC	21	NC
4	NC	12	NC	20	NC
3	GND	11	GND	19	GND
2	DVDAT2+	10	DVDAT1+	18	DVDAT0+
1	DVDAT2-	9	DVDAT1-	17	DVDAT0-
A	Analog Blue	B	Analog Horizontal Sync	C	Analog Red
D	Analog Green	E	Analog GND		
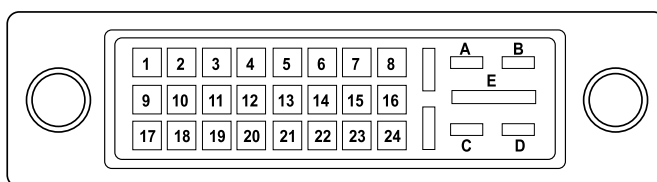
DVI-I CONNECTOR

Vhigh = 200mV ~ 780mV. Nominal 600mVwith 50 ohm termination to 3.3V

Vlow = -200mV ~ -780mV. Nominal –600mVwith 50 ohm termination to 3.3V

Minimum opening at transmitter = 400mVwith 50 ohm termination to 3.3V

Jitter : 0.25UI

Antenna 1 input and loop-thru 1

Connector type	Female F connector
Impedance	75 ohm
Loop-thru Output	75 ohm

Antenna 2 input and loop-thru 2

Connector type	Female F connector
Impedance	75 ohm
Loop-thru Output	75 ohm

AC input

98~240V AC 47/63Hz